MUNDÉ (P. F.)

THE INDICATIONS

FOR

HYSTERO-TRACHELORRHAPHY,

OR THE

Operation for Laceration of the Cervix Uteri.

BY

PAUL F. MUNDÉ.

FELLOW OF THE OBSTETRICAL SOCIETY OF NEW YORK, AND OF THE AMERICAN GYNECOLOGICAL SOCIETY; CORRESPONDING FELLOW OF THE OBSTETRICAL SOCIETIES OF EDINBURGH AND PHILADELPHIA, AND OF THE GYNECOLOGICAL SOCIETY OF BOSTON.

WITH TWO CHROMO-LITHOGRAPHIC PLATES.

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(With two Chromo-lithographic Plates.)

The first to devise and carry out the proper operative procedure for the relief of the lesion now familiarly known as "laceration and eversion of the cervix uteri," was Dr. Thomas Addis Emmet. His claim to the priority of this operation is so well established as to be universally acknowledged. I had been under the impression that he was also the first to recognize the injury as a distinct lesion, and to appreciate its etiological importance as a prime factor in the production of uterine disease, as he certainly was the first to do away with at least four-fifths of that time-honored and favorite affection, "ulceration of the womb," by showing how the ulcerated surface can be rolled in and made to disappear by approximating the edges of the "ulcer" with tenacula.[2] But on looking over Gardner's work on Sterility,[3] published in 1856, I find that this author repeatedly speaks of "laceration of the os and cervix" as productive of ulceration, hypertrophy of the cervix, endocervicitis, and sterility. He also gives two colored plates (I.

[1] This term was first employed (to my knowledge) by Dr. E. C. Dudley, now of Chicago, in a paper published in the N. Y. Med. Journal for January, 1878, and is derived from τραχηλος, neck, and ῥάφη, a seam. I have adopted it, because I think so important an operation should have a distinctive name of its own, and for convenience' sake.

[2] See Remarks by Peaslee, after the reading of a supplementary paper on "The Proper Treatment of Lacerations of the Cervix Uteri," by Dr. Emmet, before the N. Y. County Med. Society, December 1876 (N. Y. Med. Jour., Jan., 1877). "When at Demilt Dispensary, a large number of cases of the class referred to by Dr. Emmet presented themselves, but were not recognized, for none of us knew anything about them till Dr. Emmet told us. It was he, who, in a happy moment, brought the anterior and posterior surfaces together with two tenacula, and instantly demonstrated that what we all thought was an ulceration of the cervix was nothing more or less than a laceration."

[3] The Causes and Curative Treatment of Sterility, etc., by A. K. Gardner, A.M., M.D., New York, 1856.

and V.) of the cervix seen through a four-bladed speculum, one of which is intended to represent "fissure of the os," a frequent cause of abortion; and the other two, the inflamed and ulcerated endocervical mucosa exposed by the expansion of the blades of the speculum. The first figure mentioned (Plate V., Fig. 1), clearly shows multiple superficial fissures of the os, with eversion and ulceration; Plate I. is a partial, and Plate V., Fig. 2, a complete laceration and eversion. Of an operative procedure for the cure of this affection not a word is said.

Professor Roser, of Marburg, Germany, also lays claim, I believe, to having recognized what he calls "cicatricial ectropium of the cervix" long before it was referred to by others, but although the exact reference to Roser's paper has escaped my memory, I am certain that he never recommended its cure by a plastic operation.

Emmet's first operation was performed Nov. 27th, 1862, in the presence of his assistant Dr. G. S. Winston, and of Dr. T. G. Thomas. Although during the next seven years he repeated the procedure many times, in the presence of numerous professional gentlemen from all parts of the Union, his first published account of the operation and its technique did not appear until February, 1869, in a paper on the Surgery of the Cervix, read before the Medical Society of the County of New York, February 8th, 1869, and printed in the AMER. JOUR. OF OBSTETRICS for the same month.

In this publication Dr. Emmet was preceded by a few months by Dr. M. A. Pallen, then of St. Louis, who independently, he informs me, described substantially the same operation for the same purpose.[1] In spite of these two papers and the constantly increasing number of operations performed by Dr. Emmet, amounting up to 1874 to nearly 200, it was not until the reading of a second and more lengthy paper by Dr.

[1] St. Louis Med. and Surg. Jour., May 10th, 1868.

The diagrams in this article represent a lesion slightly different from that now commonly considered as requiring operation; for while we at present generally look upon the eversion of the lacerated lips as the condition chiefly calling for operative interference, in this diagram merely a fissure, with no eversion whatever, only a slight gaping of the lower edges of the wound, is depicted. In fact, Dr. Pallen calls the lesion "uterine harelip." The operation itself and the after-treatment are described precisely as by Dr. Emmet, to whom Dr. Pallen (in a letter to me) unqualifiedly accords the priority in devising the operation and recognizing its indications.

Emmet before the same Society on Sept. 28th, 1874, and its publication in the Jour. Obst. for November following, that the profession became fully aroused to the immense value of the discovery of the lesion, its consequences, and its cure. From that time on, probably few of the rising gynecologists of our larger cities, particularly those coming from that fountain-head of uterine surgery, the New York Woman's Hospital, have neglected the opportunity to perform this operation; and papers descriptive of the lesion and its operative cure have been written by Wing,[1] Baker,[2] Breisky,[3] Dudley,[4] Emmet himself,[5] and others, those by Wing and Dudley being illustrated by diagrammatic sketches, which were omitted in all the previous descriptions. A careful perusal of these papers shows me, and the diagrams referred to confirm this impression, that all the authors who have hitherto written on this subject, speak only of COMPLETE laceration or fissure of the cervix, either uni- or bilateral, with a rolling out of the lips of the cervix up to the vaginal reflection, the cervix presenting the appearance of an eroded surface two inches or more in diameter. These are the typical cases of the lesion, as to the deleterious effects of which, both locally and on the general system, their incurability by other means, and their rapid, sure, and safe cure by Emmet's operation, with the usual entire relief of all symptoms, no unprejudiced and experienced observer can at the present day entertain a particle of doubt. These very common injuries, and the technics of the operation by which they are cured have now become so familiar to the majority of the profession, by means of the papers above referred to, that it would be tedious and waste of time to describe them again. But, so uniform as is the acceptance by all the initiated of Emmet's operation for these the gravest forms of the lesion, so greatly divided does the profession still seem to stand as regards the exact point when a laceration and eversion of the cervix requires operation, and when it is still curable by topical applications —astringents, caustics, or cautery.

Not only is this uncertainty not confined to *medical* gynecologists proper, but even some of the leading uterine surgeons

[1] Boston Med. and Surg. Jour., March, 1876.
[2] Ibid., Sept. 27th, 1877.
[3] Wiener Med. Wochenschrift, 1876.
[4] N. Y. Med. Jour., January, 1878.
[5] L. c.

have expressed the opinion that the minor degrees of laceration and eversion do not require operation, as they are too insignificant to be productive of evil, or can be cured by mild astringents.

Thus, at a meeting of the Boston Obstetrical Society, held Oct. 11th, 1876, Dr. James R. Chadwick takes occasion to protest against the impression unintentionally conveyed by Dr. Wing (l. c.) that these lesions are curable only by operation, "having found that, in the vast majority of cases, the tender mucous membrane of the cervix may be toughened by the application of mild astringents so as to bear exposure to friction with impunity." "The treatment," Dr. C. adds, "may, however, have to be continued for many months. In extreme cases an operation is certainly advisable."

More recently, Dr. Thomas, in a lecture delivered in his regular course at the College of Physicians and Surgeons, October 10th, 1877,[1] exhibited a patient with *slight* laceration of the cervix uteri ("the two lips of the wound were separated to a very small extent, but cicatrization had taken place, and they were everywhere covered with mucous membrane"), the remainder of the genitalia being apparently normal, for the avowed purpose of cautioning the class against attaching too much importance to such "trivial particulars" as this slight laceration of the cervix. He therefore referred her "pain in head, back, side and down the leg," and too frequent menstruation, all dating from last confinement, to some obscure intestinal trouble, and decidedly discountenanced the operation of her laceration, as entirely devoid of importance.

Still more recently, at the meeting of the State Medical Society in Albany, in January last, on occasion of the reading of a paper on this topic by Dr. Walter B. Chase, of Windham, N. Y., remarks favoring the medical treatment of some of these lesions were made by Drs. Fordyce Barker and A. Jacobi, which, coming from so high authority, have attracted considerable attention and are, in my opinion, calculated to depreciate both the significance of the lesion in question and the restorative operation.[2]

Dr. Barker, after admitting the existence of large laceration

[1] Bost. Med. and Surg. Journal, Nov. 8th, 1877.
[2] Med. Record, March 9th, 1878.

and eversion of the cervix uteri, and the efficacy of the plastic operation, both having been demonstrated to him by Dr. Emmet, asserts that some of these cases will get well without surgical treatment. He says that formerly, before Dr. Emmet's first publication on the subject, he succeeded by local treatment in removing the ulcerated appearance, diminishing the size of the uterus, and relieving the symptoms in the cases then "supposed to be granular inflammation, ulceration or abrasion of the cervix, with enlargement of the uterus; the patient, for a time at least, was cured. But, in a few weeks, some of these patients would return, and, upon examination, *they would be found to be just as bad as ever.*"[1] In some cases, however, he did succeed in effecting a cure—a complete involution of the organ and restoration of the ulcerated tissue by placing the woman in a *recumbent posture for two or three weeks*[1] and making occasional applications of the actual cautery. Then he goes on to say that "the fact that some such cases as these can be cured without a surgical operation is important, because the operation always requires confinement of the patient, and some of them will not consent at all to it." He then describes his method of treatment briefly, as follows: Recumbent posture, hot vaginal injections, tr. chlor. of iron, ergot, and nux vomica. After three or four weeks the uterus is reduced in size, and the patient is then allowed to be up, wearing a cotton tampon dipped in a saturated solution of tannin in water, to be renewed daily. "After a time," this could be dispensed with, and the patient was cured.

Dr. Jacobi claimed that, if the puerperal uterus and vagina be kept clean by repeated warm-water injections until the lochial discharge ceases, in all probability every laceration, unless it enters the peritoneum, will heal. And if it does not heal, the operation will do no more than close the laceration and remove the ulcerated surface; the uterine catarrh and chronic enlargement usually accompanying the lesion will, he asserts, get well only under separate treatment. The treatment covering all these indications at once, in Dr. Jacobi's experience, is the actual cautery applied to the cervix and endometrium, which destroys the cicatricial surface, and enlivens the adjoining circulation.

[1] Italics are mine.

In Europe, with the exception of Germany, the existence of laceration or fissure of the cervix as a distinct lesion requiring recognition and treatment, appears scarcely to have dawned upon the profession. With, it would seem, almost wilful neglect, all mention of the affection is omitted in the two latest books on gynecology, Barnes[1] and Leblond;[2] and authors so well acquainted with American medical literature as Hegar and Kaltenbach[3] and Schroeder,[4] in Germany, do not refer either to the lesion or its treatment. Beigel, in his first work,[5] omits all mention of it; but in his recent treatise on Sterility[6] he describes and recommends the operation. A translation of Emmet's second (1874) paper, by Vogel, of Berlin, appeared early in 1878, and has now doubtless familiarized the profession in Germany with the subject. The only authors speaking of it are Breisky,[7] who operated on five cases under the guidance of a former house-surgeon at the New York Woman's Hospital, and was enthusiastic for the operation, and Ruge and Veit,[8] who, in an article on "The Pathology of the Cervix," give a chromo-lithograph of a lacerated cervix. Barnes, to be sure, gives one woodcut of "eversion or rolling out of the lining membrane of the cervical canal" (Fig. 117), and two of "eversion of the lips" of the cervix, one in the early, the other in the advanced stage of hypertrophic elongation of cervix uteri (Figs. 120 and 121), which eversion he explains as caused by "growth or extension of the cervix from within outwards," but which, to my mind, evidently represent the familiar laceration and eversion by traction of the hyperplastic lips. I think his diagrams plainly show this, as well as two previous ones (Figs. 101 and 103) of "epithelial abrasion" around the os, several weeks after delivery, which also plainly show the first degree of ectropium of a multi-fissured os. Of course, the epithelium is abraded, but it is the epithelium of the everted endocervical mucosa, just within the oral border, not of the

[1] Diseases of Women, June, 1878.

[2] Traité élémentaire de Chirurgie Gynécologique, Paris, 1878.

[3] Operative Gynäkologie, 1874.

[4] Dis. of the Female Sexual Organs, Ziemssen, 1875.

[5] Krankheiten des weibl. Geschlechtes, Stuttgart, 1874.

[6] Pathologische Anatomie der weibl. Unfruchtbarkeit. Braunschweig, June, 1878.

[7] Wiener Med. Wochenschr., 1876.

[8] Zeitschrift f. Geburtsh. u. Gynäkologie, ii., 1878.

vaginal mucous covering of the cervix, just without the border. I have seen many such cases, the recognition of which, though easy with a Sims' speculum, is difficult or impossible through the cylindrical or bivalve specula ordinarily in use.

A letter published in the *Chicago Med. Journal and Examiner* for April, 1878, from a physician travelling abroad, would seem to indicate that the eminent gynecologist of Dublin, Lombe Atthill, for whose writings and practice I have the highest regard, either does not or will not recognize the importance of the lesion in question and its operative cure. A typical case of laceration being presented to the writer, Atthill, on being asked what he thought of Emmet's operation, is reported as saying that "just now following in the wake of Dr. Sims, we (American physicians) were a little crazy on the subject of uterine surgery, and when a case presented itself, we lost sight of every therapeutical appliance except the knife."

In vivid contrast are the views of the eminent Danish gynecologist Howitz, of Copenhagen, who recently[1] published his experience on seventy-six cases of "Emmet's rupture of the cervix uteri." He found ectropium and erosion of the everted cervical mucosa to be almost constant results of the lesion, and cystic degeneration of the lips frequently present. The necessity for operation he regards as unquestionable, the condition being remediable in no other way.

The impression obviously conveyed by the remarks of Drs. Barker, Jacobi, and Atthill is, that the operation for lacerated cervix has been and is far too frequently performed; that, in the vast majority of instances, the lesion is curable by local applications, rest, and general treatment; that the operation is to be restricted only to the gravest forms of the accident; and, finally, that the minor varieties are, as a rule, too trivial to be either productive of evil or in need of an operation.

Now, while I certainly admit that slight lacerations or nicks of the cervix, without ectropium and with normal mucous surfaces, yes, even deep fissures without eversion, or rolling out of the flaps (Fig. 3), further, deep lacerations with eversion, but with the whole everted cervical mucosa cicatrized and smooth (Fig. 11)—while I admit that all these in no wise call for operative interference or any interference whatever

[1] Gynäkologiske og Obstetriciske Meddelelser, vol. i., No. 3, 1878.

(except there be cervical neuralgia from inclusion of nerve-filaments in the cicatrix, a symptom pointed out by Emmet as an indication for the operation), my experience decidedly warrants me in claiming that there are numerous cases of the minor degrees of cervical laceration and eversion in which the plastic operation is the most safe, sure, and rapid therapeutic measure for the relief of the local disease with which the patient is afflicted. Such cases are:

1. Slight lacerations (as shown in Fig. 8), which ordinarily give no trouble whatever, but in which, under the influence of friction against the posterior vaginal wall (the uterus often being subinvoluted and depressed), the trivial ectropium becomes a profusely secreting ulcer, gradually spreading into the cervical canal, and producing the familiar mucopurulent tenacious plug projecting from the fissured os.

Here, strong caustics, chiefly solid nitrate of silver, nitric and chromic acids, or perhaps, in *due time*, milder astringents, such as tannin and iodoform, etc., may finally glaze over the ulcerated surface and cure the endocervicitis; but, as Dr. Barker himself admits, the cure would be merely temporary, lasting only a few weeks, "the ulceration" would then be found "as bad as ever," and in any case, as Dr. Chadwick says, the treatment may last for many months.

In these cases, the excision or curetting of the diseased endocervical mucosa (if much hypertrophied) may be necessary, before closing the laceration; but, as a rule, I have found the removal of the ulcerated surface from irritation by means of the operation to be sufficient, and but little, if any, after-treatment required to cure the former endocervicitis.

2. Slight lacerations, perhaps not ulcerated and non-productive in themselves of local disturbance, but still acting through the gaping and everted os, as chronic feeders of the subinvolution and hyperplasia, against which we all acknowledge our boasted therapeutics, local and constitutional, to be ordinarily of little avail. Here, where a stimulus to circulation and absorptive nutrition is needed, is not the irritation of the operation, the loss of blood attending it, and the persistence of the sutures for one to two weeks, a far better, and surely no more cruel agent than the actual cautery, which, besides, puts a cicatrix where the operation places normal mucous membrane?

The operation in this class of cases (and they constitute the majority of those met with by the gynecologist), affords a mild and equally efficient substitute for amputation of the cervix, recommended as a stimulus to involution in "chronic metritis" or "areolar hyperplasia" by numerous writers (Mayer, Simon, Sims, Spiegelberg, Hegar, Carl Braun, and others). That it is not necessary to remove the whole or a large portion of the cervix in order to insure this involution appears from the statement made by Thomas[1] in referring to this operation of amputation in areolar hyperplasia. He says that "when a superficial layer of an organ which is affected by hypertrophy is cut off, a marked tendency to diminution in the bulk of the remaining tissue shows itself. . . . No great amount of tissue need be removed."

With precisely this object in view, August Martin, of Berlin, recently reported[2] having amputated the cervix uteri seventy-two times, with the invarying result of seeing the hyperplastic uterus decrease in length by 2 to 3 cm. beyond the dimensions of the part removed (2 to 4 cm.). The operation, as performed by him, he states to be quite a small matter, occupying often not more than ten to twelve minutes. As one of the advantages of the operation is stated the removal of the usually diseased cervical mucous membrane—an advantage equally well attained by trachelorrhaphy. Of Martin's cases, only seven experienced inflammatory after-effects. In the discussion which followed, Kehrer, Schroeder, and Olshausen agreed substantially with Martin, that removal of a portion of the cervix is greatly preferable to cauterization in stimulating the uterus to involution, and described their own operations for the attainment of the same object. To the objection of Kugelmann, of Hanover, that these cases are curable "in time and with patience" by less severe measures, Schroeder replied that the time and patience of the patient should also be considered, and that it "certainly was preferable to obtain a certain result in a fortnight by a safe method, than an uncertain result after months of other treatment."

It will be seen that these opinions coincide precisely with those expressed in this paper, which, I may add, was substantially

[1] Dis. of Women, 1874, p. 307.

[2] Trans. German Gynecological Society, Sept. 12th and 13th, 1878. See this number.

written and read to some friends in June, 1878, three months before the meeting just quoted from. In order to be sure of sufficiently stimulating the uterus to involution, I should say that the flaps removed in hyperplasia should be larger and the incisions deeper, extending into the tissue of the uterus itself, than in the ordinary cases where there is but slight enlargement of the cervix or whole uterus. The usual large size of the cervix in hyperplasia *eo ipso* calls for larger denudation, and perhaps excision of a portion of one or the other lip. The subsequent approximation of the lips and mucous covering is also practised by Martin, who always draws the mucous membrane over the stump by sutures.

3. Cases of hyperplastic or cystic ectropium of one lip (Fig. 5), in which a raw, ulcerated surface, often one-half to one inch in diameter, takes the place of the lip. To excise this redundant and useless piece of tissue, slightly pare the edges of the broad cervix, and restore the normal transverse os, is certainly a much neater way of curing this difficulty than by the tedious cautery or often repeated scarification. Such cases, and those shown in Fig. 4, where the hyperplasia extends to both lips, generally complicated with fissure, form a large contingent for and are particularly benefited by the operation.

4. Cases of laceration of the endocervical mucous membrane, with comparatively slight injury to the border of the os, which, however, is patulous and funnel-shaped, often admitting the point of the index finger (Fig. 6), and frequently everted and eroded (Barnes, Fig. 117). The gaping os is usually filled with a muco-purulent, tenacious plug, the result of endocervicitis from exposure, and the patient complains of the symptoms peculiar to this condition. Here also the strong caustics fail, or are tedious. What is better, then, than to slit the cervix bilaterally, denude, and stitch it up like an ordinary laceration? I performed this operation in precisely such a case as the figure shows, during the past winter, in which nitric acid had been previously tried in vain for several weeks. I neglected, however, to slit the cervix on either side, and, therefore, failed partly in securing perfect union; sufficient contraction was, however, obtained to permit of subsequent rapid cure by nitric acid.

For this species of lesion, my friend Dr. M. D. Mann proposes passing a long, slender, curved bistoury (tenotomy knife) into the normal margin of the cervix, carrying it down as far as the gaping extends, and then sliding it around to the point on the opposite side, and cutting out into the canal; this procedure is to be repeated on the opposite side. Two crescentic shavings of tissue are thus removed, and the opposite edges united by sutures.

5. We are all familiar with the difficulty experienced in curing large granular and follicular erosions of the cervix by caustics. Why not, then, hasten the cure by removing the diseased mucous membrane and uniting the healthy edges by sutures, as is done in Emmet's operation? I am confident much time could thus be saved.

If such slight cases of cystic or follicular erosion as seen in Fig. 2 would not necessarily require trachelorrhaphy, that depicted in Fig. 12, and taken from a case seen in my service at Mt. Sinai Hospital, certainly would. It was my intention in this case to excise completely the large cystic degeneration (which with its fissures closely resembled epithelioma, the differential diagnosis being made by the microscope as hyperplasia cystica), and then to create two lateral fresh surfaces and unite them in the ordinary manner, but the patient unfortunately declined the operation, and I lost sight of her.

If there ever was a case ripe for malignant degeneration this was the one. Who will deny that the plastic operation proposed by me was an infinitely more rational and radically restorative procedure than the puncture of the enlarged follicles and cautery usually recommended?

Another reason why even otherwise trifling ectropia should not be allowed to go on for years unheeded and untreated was recently[1] advanced by Prof. Breisky, of Prague, who has observed and operated upon four cases of laceration in which one everted lip had become carcinomatous in consequence of the irritation to which the exposed cervical mucosa was subjected. These observations are confirmed by Veit,[2] who out of 9 cases of carcinoma cervicis found 3 in which the disease originated in the enlarged glandular elements.

[1] Wiener Med.-chir. Rundschau, Aug., 1877.

[2] Gynecol. Sec. German Congress of Phys., 1877.

I do not deny the statement that the majority of *fresh* cervical lacerations will get well merely with cleanliness and the recumbent posture, nor that many cases can be cured by the treatment advocated by Drs. Barker and Jacobi; but I would ask, What is the advantage of subjecting patients to a treatment extending over weeks and months, and confinement to a recumbent posture for two or three weeks, enlivening the monotony of this course by the occasional application of the actual cautery, when all this can be obtained (the wound closed, the cervix restored to its normal shape, and the uterus certainly diminished *somewhat* in size) after less than two weeks' confinement in bed by an almost entirely safe, simple, and comparatively painless operation? Should the uterus be depressed in the pelvis or its involution retarded, daily tannin tampons and hot injections for some time will certainly aid the complete cure, but by these the patient is in no wise incommoded, as she can apply them herself. That the operation is comparatively painless I have witnessed myself, since I have three times performed it without anesthesia, the patients telling me afterwards that they much preferred the only severe pain felt, that of the introduction of the sutures, to the nausea following etherization.

That the operation is comparatively devoid of danger is shown by the statistics of the New York Woman's Hospital:[1] In 84 operations, but one death occurred (from peritonitis); and Dr. Emmet[2] states that, in nearly 200 operations of the kind performed by him, only one case of cellulitis occurred, due, he believes, to inflammatory tendency in the hospital; and even in this case the operation was successful. So we have (considering that Dr. Emmet performed two-thirds of these operations in the Woman's Hospital down to 1875) at least 250 operations for trachelorrhaphy, with a mortality of two-fifths of one per cent, and a similar ratio of inflammatory trouble following it. Surely, but few operations involving equal skill and followed by equally beneficial results can boast of such security!

It is true that the operation occasionally fails (in 10 cases out of the 84 above quoted), but this is chiefly due to lack of proper preparatory treatment, to insufficient paring and careless adaptation of the wounded surfaces, and to influences not under

[1] Annual Report for 1877. [2] L. c., AMER. JOUR. OBST., vol. vii., p. 449.

the control of the surgeon. A second operation usually cures the case.

At a meeting of the New York Obstetrical Society, held November 20th, 1877, Dr. Alex. J. C. Skene, the President, expressed the opinion that there were many abnormal conditions of the cervix uteri, other than lacerations, which could be cured better by the plastic operation than by any other means. While he did not explain himself more precisely, I drew the inference that he alluded to conditions very similar to those which I have been here describing and which I have looked upon as, under proper conditions, calling for the operation.

During the past year I twice performed the operation for lacerations smaller than that shown in Fig. 9, in both of which cases the indication was not the *extent* of the injury, but the irritation exerted on the hyperplastic uterus by the friction of the everted surfaces, and the beneficial influence to be expected for the reduction of the enlargement. These indications were confirmed by Dr. Thomas, who saw the ladies with me in consultation.

In the first case, the patient had suffered from hyperplasia and endocervical leucorrhea since the birth of her first and only child 20 years previously. The uterus was anteflexed, much enlarged, the probe entered to the depth of 3 inches, and a profuse, glairy, muco-purulent plug constantly protruded from the gaping os, the laceration and eversion of which held about the medium between the appearances depicted in Figs. 8 and 9. The left ovary was enlarged and tender, the uterus low in the pelvis. The patient had worn various pessaries, of which only the last, Hitchcock's, gave her some relief, without, however, removing the constant dragging and aching pelvic pains, for which principally she sought advice. Two months of local treatment bringing but temporary relief, the operation of paring and uniting the edges of the greatly enlarged cervix was performed April 18th, 1877, for the indications above stated. Complete union took place, leaving an almost virginal os. Within one month after the operation the uterus was reduced to 2½ inches in length, the pelvic and ovarian pains disappeared, the patient, wearing a block-tin anteversion pessary covered with soft rubber, was able to spend the whole summer in the Adirondacks walking and riding, restored to complete health.

The second case was a still more striking illustration of the benefit to be derived from the operation, other than the mere closure of a small laceration.

The lady, æt. 32, mother of one child 4½ years old, had had several miscarriages and had suffered for over 3 years from almost regu-

lar discharges of shreds, occasionally complete membranes, during menstruation. The pain and prostration attending these exfoliations were excessive. Uterus retroverted in the second degree, very much enlarged, cavity 3 inches long; os slightly lacerated and everted, scarcely as much as shown in Fig. 9; constant glairy, discolored cervical discharge. After 4 months' steady treatment by means of intrauterine application of nitric acid (once only), tr. iodine and iodized phenol (once weekly, preceded by sponge-tents for 2 months), and local galvanization of endometrium (3 months), the patient was very much improved and the membranes had not appeared for 2 periods. But still the endocervical catarrh continued and bade fair to keep up sufficient irritation to prevent the permanent cure of the membranous dysmenorrhea, the tendency to which was undoubtedly also aggravated by the chronic engorgement of the uterus. To relieve these two conditions and reduce the size and congestion of the uterus, with Dr. Thomas' approval, the operation of trachelorrhaphy was performed May 12th, 1877. Complete union was obtained. The farther treatment consisted in intrauterine and chiefly vaginal galvanization, the latter applied for the most part by the patient herself, a very intelligent lady, her home being out of the city. In consequence of this treatment and the operation, the endocervical catarrh vanished entirely and the uterus was much reduced in size, being found to be normal before the lady left for a trip to Western New York in the following August. On this trip (wearing a retroversion pessary specially constructed for her) she was able to undergo fatigue and exertions to which she had been unequal since her illness. In spite of the unfavorable prognosis, her membranous dysmenorrhea seems cured, for it is now more than a year and a half since she passed the last shreds.

In this case, I will not attribute more to the operation than is its due, but I am confident that no local treatment directed solely against the desquamative action of the uterine mucosa would have been productive of permanent benefit, had the focus of irritation—the gaping, although but slightly lacerated cervix —been allowed to remain unrestored.

I trust that I have made sufficiently clear and explicit the object of this paper, viz.: to demonstrate, not that *every* laceration of the cervix should be operated upon as a duty, for I believe that a certain proportion of these lesions either do not require any treatment because they produce no symptoms, or, in a lesser proportion, are amenable to caustic and astringent applications—but that there is a very large class of cases in which the operation is called for, not by the extent of the injury, but by the symptoms which it produces and the pathological conditions which it aggravates or maintains. These cases I have stated above.

My position is very materially strengthened by a short paper recently published by Dr. Skene in the June, 1878, number of the Proceedings of the Medical Society of the County of Kings, on the "Treatment of Lacerations of the Cervix Uteri," in which he strongly recommends the operation, and describes his substitution of silk in place of the ordinary wire sutures. These he used in eight cases with perfect success. In one case, the operation was performed at his office without ether (as indeed were the others), the vagina tamponed, and the patient sent to her home by the street cars; and still union took place. In another case, the patient began to menstruate on the third day after the operation, left her bed, went to the adjoining room and voided a large clot from her vagina; and here also union occurred. Dr. Skene does not confine the bowels or particularly restrict the diet. Now, in view of these successes, I doubt not that we shall soon be able to operate on these slighter cases of laceration and eversion at our office or the Dispensary, send them home by the cars and let them go about their ordinary avocations (avoiding unusual exposure, of course), to return for the removal of the stitches at the end of a week. The absence of etherization, and the use of silk instead of wire, materially simplify and shorten the operation. When it has once been demonstrated that this plan is followed by success as regards union, then the great objection to the operation among the poorer classes, the confinement to bed, will be removed, and old cases of cervical ectropium should disappear from our clinics. Still, I consider the recumbent position during convalescence as a most important factor for the ultimate results of the operation and one always to be insisted upon when feasible.

It need scarcely be stated that the usual subjective indications for the operation first specified by Dr. Emmet (dragging and weight in pelvis, loss of sexual appetite, cervical and ovarian neuralgia, hysteria, general anemia, etc.) apply to the slighter lacerations exactly in proportion to the extent of the injury.

In conclusion, permit me briefly to refer to the experience on which these remarks and conclusions are based.

Out of 700 parous women (meaning such as had been delivered of one or more children at or near term) treated by me at the Out-Door Department of Mt. Sinai Hospital during the past two years, there were 119 with lacerations of the cervix

uteri of one or the other of the three degrees assumed by me. Of these, 92 were bilateral, 24 unilateral (17 right, 7 left; this latter result is contrary to the experience of others, who found the sinistral lacerations the more frequent, in accordance with the greater frequency of the left occipital presentations, and is probably accidental), two through the posterior and one through the anterior lip. Of these 119 cases, 20 were of the first, 45 of the second, and 54 of the third, or most severe degree. In only 16 cases was there no eversion and an absence of local and general symptoms attributable to the lacerations. In 3 cases the everted surface was cicatrized and innocuous. To show the rarity of simple uncomplicated erosion of the cervix, in comparison to the erosion and ulceration[1] of the everted cervical mucosa, I will merely mention that only 11 instances of this formerly so commonly diagnosed affection were observed among these 700 cases.

Of all the lacerations of the cervix which have been under my observation, the number of which is probably double that mentioned here (I have not thought it necessary to this paper to look over the records of former years and of private practice, deeming the figures here presented sufficiently large), 16 were operated upon by me, with 12 perfect successes and 4 failures as to union; in two of these latter, the operation was repeated, and complete union and restoration to health obtained. Two of these patients conceived soon after the operation and, as I am informed by the attending physicians, were confined at term without any difficulty being noticeable in the dilatation of the cervix and without a recurrence of the laceration.

The percentage of lacerations observed by me (17 per cent) is decidedly higher than that reported by Dr. Hanks ($8_{1}{}^{4}{}_{0}$ per cent) from a similar public institution, the Demilt Dispensary, and serves to illustrate very aptly a remark made by Dr. Barker on the occasion above mentioned, that this lesion

[1] The term "ulceration" of the everted cervical mucosa is not intended to imply a loss of substance. With the exception of the chancroid, carcinoma, and the excavated ulcer produced by direct friction on a prolapsed cervix, there is, "correctly speaking, no such disease as ulceration of the cervix uteri" (Craig, Am. Practitioner, July, 1878). The familiar ulcer of the cervix and the raw, bleeding, profusely secreting surface of the everted mucous membrane of the cervix, presents a red, *granular, frequently elevated* and fissured appearance, similar to the granular degeneration of the conjunctiva.

occurs with vastly greater frequency in persons who have had neither skilled obstetrical attendants nor the care and rest required after confinement, since in his own practice, confined to the more wealthy classes, he had met with this accident in but two well-marked cases. Now, the patients of the Demilt Dispensary are mostly of Irish and American nationality, among whom it is customary to employ a physician at their confinements, and observe the usual week or nine days of the recumbent posture afterwards, whenever their circumstances permit; but among the Jewesses, who constitute by far the majority of patients of the Mt. Sinai Hospital Out-Door Department, I hear that it is the rare exception for them to be delivered by a physician, and that the lying-in period is but poorly observed.

That this higher percentage (three times as high, indeed, as that stated by me in remarks made after the reading of Dr. Emmet's last paper, two years ago, when I was less familiar with and had seen a much smaller number of cases of the lesion) is not accidental or confined to patients of the class named, is confirmed by the experience of Dr. Wm. Goodell, who, in "The Address on Obstetrics" read before the State Medical Society of Pennsylvania in May, 1878, and received by me in reprint only a few days ago, says: "My own experience at the Dispensary for Diseases of Women at the University of Pennsylvania would lead me to infer that about one out of every six women suffering from uterine trouble has an ununited laceration of the cervix."[1] He also states that he has operated for this lesion eighteen times during the past twelve months. This paper of Dr. Goodell's contains, by the way, the most forcible and graphic picture I have yet seen of the peculiar appearance and the consequences of this lesion, drawn with all the eloquence for which the author is so justly celebrated.

Finding that correct and intelligent representations of the lesion now known as Laceration, Fissure, or Ectropium of the Cervix Uteri are exceedingly rare, there being only one such diagram in colors, to my knowledge, in existence, made with the purpose of demonstrating its appearance—that of Ruge and Veit, above referred to—I had a series of colored plates of the

[1] Laceration of the Cervix Uteri. The Address in Obstetrics delivered before the Medical Society of the State of Pennsylvania, by Wm. Goodell, A.M., M.D., etc., May, 1878. Phila.: Collins, Printer, 705 Jayne St.

various forms and degrees of laceration and ectropium of the cervix uteri prepared from nature, for the faithful execution of which I am indebted to the kindness and skill of Dr. A. H. Fridenberg, house physician at Mt. Sinai Hospital, whose residence in the hospital enabled me to secure his immediate attendance whenever a case favorable for illustration presented itself. The cases of laceration were chosen to show, as nearly as practicable, without exaggeration, the typical varieties of the lesion designed to be discussed in this paper; and one diagram of simple erosion of the cervix was added to illustrate the difference in appearance between the two affections. I think they clearly and truthfully represent what they claim to do, and trust they may prove of practical value to the uninitiated.

EXPLANATION OF PLATES.

(All figures taken in the left semi-prone position through Sims' speculum.)

FIG. 1. Large catarrhal erosion of nulliparous cervix.
FIG. 2. Follicular erosion of parous cervix with slight fissure.
FIG. 3. Large stellate laceration without eversion.
FIG. 4. Stellate laceration with eversion and cystic hyperplasia.
FIG. 5. Cystic hyperplasia and eversion of anterior lip.
FIG. 6. Patulous os, without distinct external fissure.
FIG. 7. Unilateral laceration (right) with eversion.
FIG. 8. Bilateral laceration with eversion, first degree.
FIG. 9. Bilateral laceration with eversion, second degree.
FIG. 10. Bilateral laceration with eversion, third degree, showing tenacula inserted to approximate the everted lips.
FIG. 11. Bilateral laceration with eversion, third degree, mostly cicatrized and not ulcerated. Both upper corners show fresh breaking down of cicatrix.
FIG. 12. Enormous cystic hyperplasia of anterior lip, simulating epithelioma.

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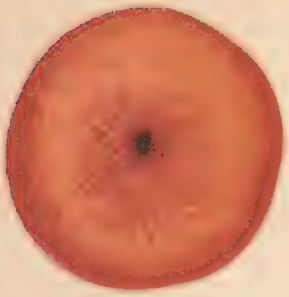

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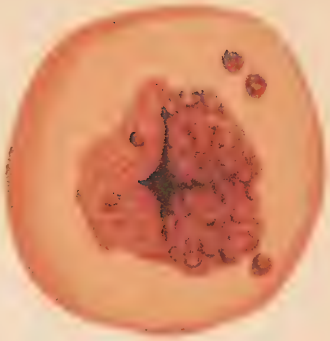

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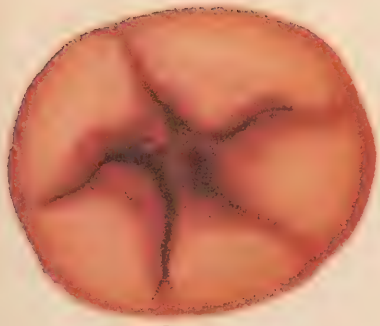

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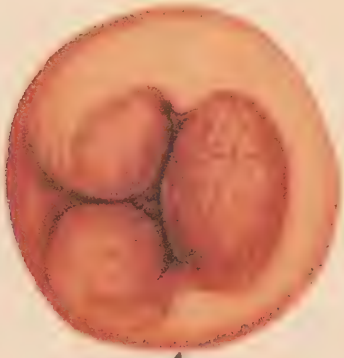

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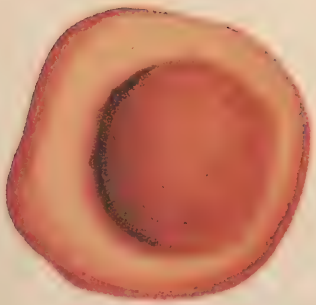

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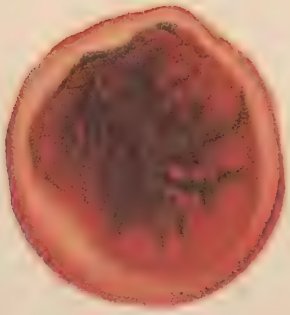

6.

Mundé on Lacerations of the Cervix Uteri.

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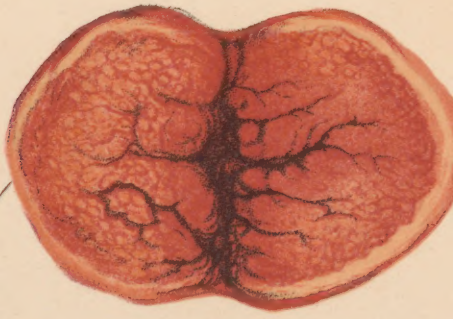

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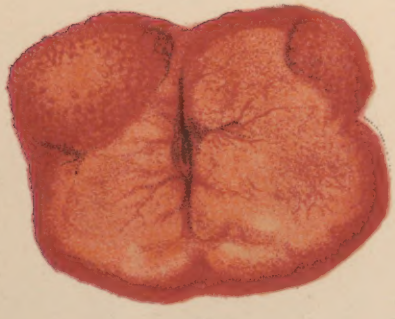

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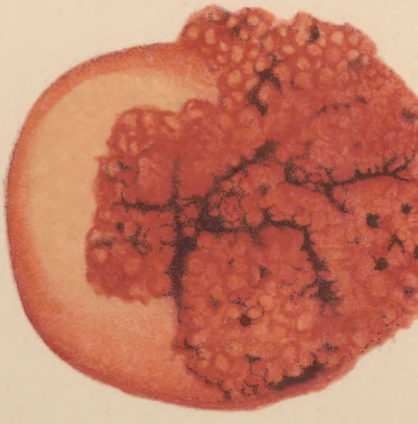

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Mundé on Lacerations of the Cervix Uteri.